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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/971,711	10/09/2001	Satoshi Sugaya	Q66406	4242

7590

12/19/2002

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
Suite 800  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3213

EXAMINER

JACKSON, ANDRE K

ART UNIT PAPER NUMBER

2856

DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/971,711

Applicant(s)

SUGAYA ET AL.

Examiner

Andre' K. Jackson

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. The term "very small" in claim 8 is a relative term, which renders the claim indefinite. The term "very small" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. One is unclear as to the amount necessary to deem the atmosphere as containing a "very small amount".

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroiwa et al. in view of Scheinbeim et al. and Bennewitz et al.

Regarding claim 1, Kuroiwa et al. discloses a "Polymer capacitive moisture sensitive device comprising heating means" which has an insulating substrate (1), a moisture sensitive layer (3), a lower electrode (2) having a noble metal (Column 3, line 14) and an upper electrode (4) having a noble metal (Column 3, line 23). What is not disclosed by Kuroiwa et al. is the upper electrode having a porous body. However, Scheinbeim et al. discloses a "Humidity sensor" which has a porous electrode (Column 2, line 12). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Kuroiwa et al. to include a porous electrode as taught by Scheinbeim et al since it is necessary to make the penetration time of the moisture to the sensitive layer as short as possible. Neither Kuroiwa et al. nor Scheinbeim et al. discloses where the upper electrode is joined to the moisture sensitive layer and part of the substrate. However, Bennewitz et al. discloses a "Relative humidity detector systems and method of increasing the calibration period of relative humidity detector systems" which shows where the upper electrode is joined to the moisture sensitive layer and part of the substrate (Figure 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Kuroiwa et al. to include where the upper electrode is joined to the moisture sensitive

layer and part of the substrate as taught by Bennewitz et al. since this structure enhances the performance of the sensor.

Regarding claim 2, Kuroiwa et al. discloses a lower electrode predominantly containing platinum (Column 3, line 14).

Regarding claim 3, Kuroiwa et al. does not disclose where the lower electrode comprise a porous body. However, Scheinbeim et al. discloses a porous electrode (Column 2, line 12). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Kuroiwa et al. to include a porous electrode as taught by Scheinbeim et al since it is necessary to make the penetration time of the moisture to the sensitive layer as short as possible.

Regarding claim 4, Kuriowa et al. discloses, in one embodiment, a heater provided in the insulating substrate in one embodiment (Figure 19, 10a).

Regarding claim 6, Kuriowa et al. discloses, in one embodiment, where the heater (10) is located directly below the moisture sensitive layer (3) (Figure 24).

6. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroiwa et al. in view of Scheinbeim et al. and Bennewitz et al. as applied to claim 1 above, and further in view of Sakai et al.

Regarding claim 5, neither Kuriowa et al. nor Scheinbeim et al. nor Bennewitz discloses where the temperature measurement resistor is provided in the insulating substrate. However, Sakai et al. discloses a "Moisture sensitive element and method of manufacturing the same" which shows the temperature measurement resistor (105 temperature sensor) is provided in the insulating substrate (101, Figure 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Kuriowa et al. to include where the temperature measurement resistor is provided in the insulating substrate as taught by Sakai et al. since this make the measurement of the temperature more accurate.

Regarding claim 7, Kuriowa et al. discloses where the temperature measurement resistor (9) is located directly below the moisture sensitive layer (3) (Figure 7).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroiwa et al. in view of Scheinbeim et al. and Bennewitz et al. as applied to claim 1 above, and further in view of Qu et al.

Regarding claim 8, neither Kuriowa et al. nor Scheinbeim et al. nor Bennewitz et al. discloses where the sensor is adapted for measuring humidity in an atmosphere containing a very small amount of oxygen and containing a reducing gas. However, Qu et al. discloses a "Sensor for

monitoring concentration of gaseous substances” which discloses where the sensor is adapted for measuring humidity in an atmosphere containing a very small amount of oxygen and containing a reducing gas (Column 1, lines 46-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Kuriowa et al. to include where the sensor is adapted for measuring humidity in an atmosphere containing a very small amount of oxygen and containing a reducing gas as taught by Qu et al. since this lowers the electrical resistance and the air moisture can be determined.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre' K. Jackson whose telephone number is (703) 305-1522. The examiner can normally be reached on Mon.-Fri. 7AM-4PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are N/A for regular communications and N/A for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

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A.J.   
December 13, 2002

  
**DANIEL S. LARKIN**  
**PRIMARY EXAMINER**